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|-------------------------------|------------------------|---------------------|--|
| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                               | 09/771,292             | TOOHEY ET AL.       |  |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |  |

Baoquoc N To

2162

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 01/13/2005.2.  The allowed claim(s) is/are 1-3,5-8,10-15,17-20 and 22-24.3.  The drawings filed on 09 April 2001 are accepted by the Examiner.4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).a)  All    b)  Some\*    c)  None    of the:1.  Certified copies of the priority documents have been received.2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.(a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.**Attachment(s)**

|   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                    |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>01/14/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                           |
|   | 9. <input type="checkbox"/> Other _____.   |



JEANNE M. WILLIAMS  
PRIMARY EXAMINER

### **DETAILED ACTION**

1. Claims 8 and 20 are amendment filed on 08/05/2005. Claims 1-8, 10-20 and 22-24 are pending in this application.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marcel K. Bingham Reg. No. 42,327 on 01/13/2005.

Please amend and cancel these claims as follow:

Please replace claim 1 with:--“1. A computer implemented method of modifying data in a database system, the method comprising the steps of:

Constructing work granules that manipulate rows in a manner that groups the rows within said work granules according to logical storage units that contains the rows; and

During execution by an entity of a particular work granule that involves manipulation operations for rows in a logical storage unit;

Causing said entity to perform said manipulation operation for rows completely contained in said logical storage unit;

Determining a set of spanning rows that are partially contained in said logical storage unit satisfy a particular condition that relates to which portion of

each spanning row of said set of spanning rows resides in said logical storage unit; and

causing said entity to perform said manipulation operations for all pieces of all spanning rows in said set of spanning rows based on the step of determining, and

Wherein said work granules are executed as part of a transaction that includes a first subtransaction and a second subtransaction, wherein a first work granule is executed as part of said first subtransaction and a second work granule is executed as part of said second subtransaction.”—

Please cancel claim 4.

Claim 5, in line 1, delete [4] replace with;--1—

Please replace claim 13 with;--“13. A computer-readable medium carrying one or more sequences of instructions for modifying data in a database system, wherein execution of the one or more sequences of instruction by one or more processors to perform the steps of:

Constructing work granules that manipulate rows in a manner that groups the rows within said work granules according to logical storage units that contain the rows; and

During execution by an entity of a particular work granule that involves manipulation operations for rows in a logical storage unit:

Causing said entity to perform said manipulation operations for rows completely contained in said logical storage unit;

Determining a set of spanning row that are partially contained in said logical storage unit satisfy a particular condition that relates to which portion of each spanning row of said set of spanning rows resides in said logical unit; and causing said entity to perform said manipulation operations for all pieces of all spanning rows in said set of spanning rows based on the step of determining, and

Wherein said work granules are executed as apart of a transaction that includes a first subtransaction and a second subtransaction, wherein a first work granule is executed as part of said first subtransaction and a second work granule is executed as part of said second subtransaction."—

Please cancel claim 13.

Claim 17, in line 1, delete [16] replace with –13—

***Allowable Subject Matter***

3. Claims 1-3, 5-8, 10-15, 17-20, 22-24 are allowed.

The following is an examiner's statement of reasons for allowance:

As to claims 1 and 13, none of the know prior art either teach or suggest "during execution by an entity of a particular work granule that involves manipulation operations for rows in a logical storage unit; causing said entity to perform said manipulation operation for rows completely contained in said logical storage unit; determining that a set of spanning rows that are partially contained in said logical storage unit satisfy a particular condition that relates to which portion of each spanning row of said set of spanning rows resides in said logical storage unit; and causing said entity to perform

said manipulation operations for all pieces of all spanning rows in said set of spanning rows, wherein said work granules are executed as part of a transaction that includes a first subtransaction and a second subtransaction, wherein a first work granule is executed as part of said first subtransaction and a second work granule is executed as part of said second subtransaction" and in conjunction with "constructing work granules that manipulate rows in a manner that groups the rows within said work granules according to logical storage units that contains the rows;"

Claims 2-3, 5-7, 14-15 and 17-19 are depended on claims 1 and 13, therefore, they are allowed in the same reason.

As to claims 8 and 20, none of the know prior art either teach or suggest "prior to inserting a second row piece of said spanning row into a second logical storage unit, determining whether one or more criteria is satisfied, wherein said one or more criteria include that said second logical storage unit has enough space allocated to allow the respective certain data structure to identify at least a threshold number of interest transactions; inserting said second row pieces of said spanning row into said second logical storage unit only when said one or more criteria are satisfied" and in conjunction with "inserting a first row piece of a spanning row into a first logical unit of said logical storage unit; wherein a certain data structure in each logical storage unit of said logical storage unit is used to identify interested transaction and is not used to store any row of said each logical storage unit."

Claims 10-12 and 22-24 are depended on claims 1 and 13, therefore, they are allowed in the same reason.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Related Patent**

Balsara et al. (US. Patent No. 6,065,012) Patent date: 05/16/2000.

Attaluri et al. (US. Patent No. 6,339,777) Patent date: 01/15/2002.

**Related NPL**

Park et al. (A transaction management Scheme with mark in decision supporting environment), Web Information Engineering, 2000, date: 19-21 June 2000, page: 196-203.

Karabeg et al. (Simplification rules and complete axiomatization for relational update transactions), ACM transaction on database system, date: 1991, pages: 439-475.

***Contact Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(703) 872-9306 [Official Communication]

Baoquoc N. To

January 13, 2004



JEANINE M. ANDREUS  
PRIMARY EXAMINER